[redacted]

QUINN EMANUEL URQUHART & SULLIVAN, LLP
Sean Pak (Bar No. 219032)
seanpak@quinnemanuel.com
Adam Wolfson (Bar No. 262125)
adamwolfson@quinnemanuel.com
Andrew M. Holmes (Bar No. 260475)
drewholmes@quinnemanuel.com
50 California Street, 22nd Floor
San Francisco, California 94111-4788
Telephone: (415) 875-6600
Facsimile: (415) 875-6700

Attorneys for AliveCor, Inc.

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

AliveCor, Inc.,

Plaintiff,

vs.

Apple Inc.,

Defendant.

CASE NO. 4:21-cv-03958-JSW

PLAINTIFF ALIVECOR, INC.'S REPLY IN SUPPORT OF ITS MOTION TO EXCLUDE CERTAIN OPINIONS AND TESTIMONY OF LAUREN J. STIROH, Ph.D.

Date: October 6, 2023
Time: 9 am
Place: Courtroom 5, 2nd Floor

The Honorable Jeffrey S. White

[redacted]

TABLE OF CONTENTS

Page

[redacted]

TABLE OF AUTHORITIES

Page

Cases

[redacted]

Other Authorities

[redacted]

Abbreviation Index	
Abbreviations	**Document**
AliveCor	AliveCor, Inc.
Apple	Apple Inc.
Butler Mot.	AliveCor's Motion to Strike and Exclude Portions of Report and Testimony of Sarah Butler (Dkt. 192-3)
Butler Opp.	Apple's Opposition to AliveCor's Motion to Strike and Exclude Portions of Report and Testimony of Sarah Butler (Dkt. 213-3)
Cragg Mot.	Apple's Daubert Motion to Exclude Testimony of Dr. Michael I. Cragg (Dkt. 216-3)
Cross-Mot.	Apple's Combined Cross-Motion for Summary Judgment and Opposition to AliveCor's Motion for Partial Summary Judgment (Dkt. 220-3)
Cross-Opp.	Plaintiff AliveCor, Inc's Combined Reply in Further Support of Its Motion for Partial Summary Judgment and Opposition to Apple Inc.'s Cross-Motion for Summary Judgment
HRNN	Apple's Heart Rate Neural Network
HRPO	Apple's Heart Rate Path Optimizer
IRN	Apple's Irregular Rhythm Notification Feature
Jafari Mot.	Apple's Daubert Motion to Exclude Testimony of Dr. Roozbeh Jafari (Dkt. 212-3)
Mot.	AliveCor's Partial Motion For Summary Judgment (Dkt. 193-3)
Stiroh Mot.	AliveCor's Motion to Exclude Certain Opinions and Testimony of Lauren J Stiroh (Dkt. 191-3)
Stiroh Opp.	Apple's Opposition to AliveCor's Motion to Exclude Certain Opinions and Testimony of Lauren J Stiroh (Dkt. 218-3)
Waydo Mot.	AliveCor's Brief in Support of its Motion to Strike Paragraphs 40-50 of the Declaration of Dr. Stephen Waydo

Previously Filed Document Index	
Dkt. No.	**Document**
191	AliveCor's Admin Motion to Seal Motion to Exclude Certain Opinions and Testimony of Lauren Stiroh
191-1	Decl. of N. Siebert ISO AliveCor's Admin Motion to Seal Stiroh Daubert Motion
191-2	[Proposed] Order to Seal Stiroh Daubert Motion
191-3	AliveCor's Motion to Exclude Certain Opinions and Testimony of Lauren Stiroh
191-4	Decl. of N. Siebert ISO AliveCor's Motion to Exclude Certain Opinions and Testimony of Lauren Stiroh
191-5	[Proposed] Order granting AliveCor's Motion to Exclude Certain Opinions and Testimony of Lauren Stiroh
191-6	Siebert Exhibit 1 (O'Reilly Dep. Ex. 37)

[redacted]

Previously Filed Document Index	
Dkt. No.	**Document**
191-7	Siebert Exhibit 2 (Cha Dep. Ex. 108)
191-8	Siebert Exhibit 3 (Cha Dep. Ex. 110)
191-9	Siebert Exhibit 4 (Cha Dep. Ex. 112)
191-10	Siebert Exhibit 5 (Waydo Dep. Ex. 101)
191-11	Siebert Exhibit 6 (Cha Dep. Ex. 109)
191-12	Siebert Exhibit 7 (Tan Dep. Ex. 15)
191-13	Siebert Exhibit 8 (Antitrust and Innovation: Welcoming and Protecting Disruption article)
191-14	Siebert Exhibit 9 (Proving Causation in Damages Analyses article)
191-15	Siebert Exhibit 10 (Stiroh Opening Report)
191-16	Siebert Exhibit 11 (Stiroh Rebuttal Report)
191-17	Siebert Exhibit 12 (Cragg Opening Report)
191-18	Siebert Exhibit 13 (Cragg Rebuttal Report)
191-19	Siebert Exhibit 14 (Jafari Corrected Opening Report)
191-20	Siebert Exhibit 15 (Stiroh May 18 Depo Transcript)
191-21	Siebert Exhibit 16 (Stiroh June 14 Depo Transcript)
191-22	Siebert Exhibit 17 (Cragg May 17 Depo Transcript)
191-23	Siebert Exhibit 18 (Cragg June 20 Depo Transcript)
191-24	Siebert Exhibit 19 (Cha Depo Transcript)
191-25	Siebert Exhibit 20 (Tan Depo Transcript)
191-26	Siebert Exhibit 21 (Stiroh June 14 Dep. Ex. 3)
192	AliveCor's Admin Motion to Seal Motion to Strike and Exclude Report & Testimony of Sarah Butler
192-1	Decl. of K. Shah ISO AliveCor's Admin Motion to Seal Butler Daubert Motion
192-2	[Proposed] Order to Seal Butler Daubert Motion
192-3	AliveCor's Motion to Strike and Exclude Report & Testimony of Sarah Butler
192-4	Decl. of K. Shah ISO AliveCor's MTS Exclude Report & Testimony of Sarah Butler
192-5	[Proposed] Order AliveCor's Motion to Strike and Exclude Report & Testimony of Sarah Butler
192-6	Shah Exhibit 1 (Cragg Opening Report)
192-7	Shah Exhibit 2 (Diehl Opening Report)

[redacted]

Previously Filed Document Index	
Dkt. No.	**Document**
192-8	Shah Exhibit 3 (Butler Opening Report)
192-9	Shah Exhibit 4 (Butler Depo Transcript)
192-10	Shah Exhibit 5 (Serwin Rebuttal Report)
192-11	Shah Exhibit 6 (Stiroh June 14 Depo Transcript)
193	AliveCor's Admin Motion to Seal Motion for Partial Summary Judgment
193-1	Decl. of A. Wolfson ISO AliveCor's Admin Motion to Seal AliveCor's Partial Summary Judgment Motion
193-2	[Proposed] Order granting Seal AliveCor's Partial Summary Judgment Motion
193-3	AliveCor's Motion for Partial Summary Judgment
193-4	Decl. of A. Wolfson ISO AliveCor's Motion for Partial Summary Judgment
193-5	[Proposed] Order granting AliveCor's Motion for Partial Summary Judgment
193-6	Wolfson Exhibit 1 (Tan Dep. Ex. 3)
193-7	Wolfson Exhibit 2 (Tan Dep. Ex. 5)
193-8	Wolfson Exhibit 3 (Tan Dep. Ex. 6)
193-9	Wolfson Exhibit 4 (Tan Dep. Ex. 9)
193-10	Wolfson Exhibit 5 (Tan Dep. Ex. 10)
193-11	Wolfson Exhibit 6 (Tan Dep. Ex. 15)
193-12	Wolfson Exhibit 7 (O'Reilly Dep. Ex. 37)
193-13	Wolfson Exhibit 8 (O'Reilly Dep. Ex. 45)
193-14	Wolfson Exhibit 9 (Waydo Dep. Ex. 93)
193-15	Wolfson Exhibit 10 (Valys Dep. Ex. 2)
193-16	Wolfson Exhibit 11 (Waydo Dep. Ex. 99)
193-17	Wolfson Exhibit 12 (Waydo Dep. Ex. 100)
193-18	Wolfson Exhibit 13 (Waydo Dep. Ex. 101)
193-19	Wolfson Exhibit 14 (Cha Dep. Ex. 104)
193-20	Wolfson Exhibit 15 (Cha Dep. Ex. 105)
193-21	Wolfson Exhibit 16 (Cha Dep. Ex. 107)
193-22	Wolfson Exhibit 17 (Cha Dep. Ex. 108)
193-23	Wolfson Exhibit 18 (Cha Dep. Ex. 109)
193-24	Wolfson Exhibit 19 (Cha Dep. Ex. 110)
193-25	Wolfson Exhibit 20 (Cha Dep. Ex. 111)

[redacted]

Previously Filed Document Index	
Dkt. No.	**Document**
193-26	Wolfson Exhibit 21 (Cha Dep. Ex. 112)
193-27	Wolfson Exhibit 22 (APL-ALVCOR_00351927)
193-28	Wolfson Exhibit 23 (Valys Dep. Ex. 9)
193-29	Wolfson Exhibit 24 (AliveNDCal_05514272)
193-30	Wolfson Exhibit 25 (Stiroh Dep. Ex. 2)
193-31	Wolfson Exhibit 26 (Stiroh Opening Report)
193-32	Wolfson Exhibit 27 (Stultz Corrected Opening Report)
193-33	Wolfson Exhibit 28 (Tan Depo Transcript)
193-34	Wolfson Exhibit 29 (Waydo Depo Transcript)
193-35	Wolfson Exhibit 30 (Shapiro Depo Transcript)
193-36	Wolfson Exhibit 31 (Cha Depo Transcript)
193-37	Wolfson Exhibit 32 (O'Reilly Depo Transcript)
193-38	Wolfson Exhibit 33 (Stultz 5/11 Depo Transcript)
193-39	Wolfson Exhibit 34 (Stultz 6/22 Depo Transcript)
193-40	Wolfson Exhibit 35 (Stiroh May 18 Depo Transcript)
193-41	Wolfson Exhibit 36 (Stiroh June 14 Depo Transcript)
193-42	Wolfson Exhibit 37 (Cragg Opening Report)
193-43	Wolfson Exhibit 38 (Austin Smith Opening Report)
193-44	Wolfson Exhibit 39 (Jafari Corrected Opening Report)
193-45	Wolfson Exhibit 40 (Jafari Rebuttal Report)
193-46	Wolfson Exhibit 41 (Valys Depo Transcript)
193-47	Wolfson Exhibit 42 (Gundotra Depo Transcript)
193-48	Wolfson Exhibit 43 (Lopez Depo Transcript)
193-49	Wolfson Exhibit 44 (Petterson Depo Transcript)
193-50	Wolfson Exhibit 45 (Economics of Antitrust Complex Issues in a Dynamic Economy)
212	Apple's Admin Motion to Seal Daubert Motion to Exclude Testimony of R. Jafari
212-1	Decl. of C. Higney ISO Apple's Admin Motion to Seal Jafari Daubert Motion
212-2	[Proposed] Order granting Motion to Seal Jafari Daubert Motion
212-3	Motion to Exclude Dr. Roozbeh Jafari
212-4	[Proposed] Order Granting Apple Motion to Exclude Dr. Jafari

[redacted]

Previously Filed Document Index	
Dkt. No.	**Document**
213	Apple's Admin Motion to Seal Opp. to AliveCor's Motion to Strike & Exclude Testimony of S. Butler
213-1	Decl. of J. Lo ISO Apple's Admin Motion to Seal Its Opposition to Butler Daubert Motion
213-2	[Proposed] Order granting Motion to Seal Its Opposition to Butler Daubert Motion
213-3	Opposition to AliveCor's Motion to Strike Butler
213-4	[Proposed] Order Denying Motion to Exclude Butler
214	Apple's Notice of Daubert Motion to Exclude Testimony of R. Jafari
214-1	Apple's Daubert Motion to Exclude Testimony of R. Jafari
215	Apple's Opposition to AliveCor's Motion to Strike & Exclude Testimony of S. Butler
216	Apple's Admin Motion to Seal Daubert Motion to Exclude Testimony of M. Cragg
216-1	Decl. of C. Higney ISO Apple's Admin Motion to Seal Cragg Daubert Motion
216-2	[Proposed] Order granting Motion to Seal Cragg Daubert Motion
216-3	Apple's Motion to Exclude Dr Cragg
216-4	[Proposed] Order Granting the Motion to Exclude Dr. Cragg
217	Apple's Notice of Daubert Motion to Exclude Testimony of M. Cragg
217-1	Apple's Daubert Motion to Exclude Testimony of M. Cragg
218	Apple's Admin Motion to Seal Opp. to AliveCor's Motion to Exclude Testimony of L. Stiroh
218-1	Decl. of J. Lo Higney ISO Apple's Admin Motion to Seal Its Opposition to Stiroh Daubert Motion
218-2	[Proposed] Order granting Motion to Seal Its Opposition to Stiroh Daubert Motion
218-3	Apple's Opposition to AliveCor's Motion to Exclude Testimony of L. Stiroh
218-4	[Proposed] Order Denying Motion to Exclude Stiroh
219	Apple's Opposition to AliveCor's Motion to Exclude Testimony of L. Stiroh
220	Apple's Admin Motion to Seal Cross-MSJ & Opp. to AliveCor's Partial MSJ
220-1	Decl. of C. Higney ISO Apple's Admin Motion to Seal Apple Cross-Mot. Summary Judgment
220-2	[Proposed] Order granting Motion to Seal Apple Cross-Mot. Summary Judgment
220-3	Apple Cross-Mot. Summary Judgment
220-4	[Proposed] Order Granting Apple MSJ & Denying AliveCor MSJ

[redacted]

Previously Filed Document Index	
Dkt. No.	**Document**
220-5	Decl. of Stephen Waydo
220-6	Waydo Exhibit A (Apple Unveils Apple Watch-Apple's Most Personal Device Ever)
220-7	Waydo Exhibit B (Apple Watch Available in Nine Countries on April 24)
220-8	Waydo Exhibit C (Use the Workout app on your Apple Watch)
220-9	Waydo Exhibit D (Monitor your heart rate with Apple Watch)
220-10	Waydo Exhibit E (APL-ALVCOR_00796638)
220-11	Waydo Exhibit F (APL-ALVCOR_00611807)
220-12	Waydo Exhibit G (APL-ALVCOR_00610371)
220-13	Waydo Exhibit H (APL-ALVCOR_00860277)
220-14	Waydo Exhibit I (APL-ALVCOR_00831965)
220-15	Waydo Exhibit J (HKWorkout _ Apple Developer Documentation)
220-16	Waydo Exhibit K (HKWorkoutSession_ Apple Developer Documentation)
220-17	Waydo Exhibit L (Adding samples to a workout _ Apple Developer Documentation)
220-18	Waydo Exhibit M (watchOS 4 brings more intelligence and fitness features to Apple Watch)
220-19	Waydo Exhibit N (watchOS 5 adds powerful activity and communications features to Apple Watch)
220-20	Waydo Exhibit O (watchOS 8 brings new access, connectivity, and mindfulness features to Apple Watch)
220-21	Waydo Exhibit P (watchOS 9 delivers new ways to stay connected, active, and healthy)
220-22	Waydo Exhibit Q (watchOS 10 Preview)
221	Apple's Notice of Cross-MSJ
221-1	Apple's Cross-MSJ & Opp. to AliveCor's Partial MSJ
222	Apple's Admin Motion to Seal Decl. of J. Lo ISO Apple's MSJ & Daubert Motions
222	Lo Decl ISO Apple's MSJ and Daubert Filings
222-1	Decl. of J. Lo ISO Motion to Seal Lo Decl ISO Apple's MSJ and Daubert Filings
222-2	[Proposed] Order granting Motion to Seal Lo Decl ISO Apple's MSJ and Daubert Filings
222-3	Decl. of Jason Lo ISO MSJ and Daubert Briefs
222-4	Lo Exhibit 1 (Stiroh Opening Report)
222-5	Lo Exhibit 2 (Stultz Rebuttal Report)

[redacted]

Previously Filed Document Index	
Dkt. No.	**Document**
222-6	Lo Exhibit 3 (Apple Watch Available in Nine Countries on April 24)
222-7	Lo Exhibit 4 (Apple Unveils Apple Watch—Apple's Most Personal Device Ever)
222-8	Lo Exhibit 5 (Cragg Opening Report)
222-9	Lo Exhibit 6 (Stultz Corrected Opening Report)
222-10	Lo Exhibit 7 (Jafari Corrected Opening Report)
222-11	Lo Exhibit 8 (Williams Depo Transcript)
222-12	Lo Exhibit 9 (Stiroh Rebuttal Report)
222-13	Lo Exhibit 10 (Monitor your heart rate with Apple Watch)
222-14	Lo Exhibit 11 (APL-ALVCOR_00796638)
222-15	Lo Exhibit 12 (Shapiro Depo Transcript)
222-16	Lo Exhibit 13 (APL-ALVCOR_00611807)
222-17	Lo Exhibit 14 (APL-ALVCOR_00860277)
222-18	Lo Exhibit 15 (APL-ALVCOR_00610371)
222-19	Lo Exhibit 16 (Waydo Depo Transcript)
222-20	Lo Exhibit 17 (APL-ALVCOR_01019397)
222-21	Lo Exhibit 18 (APL-ALVCOR_01019113)
222-22	Lo Exhibit 19 (Apple Developer Program License Agreement)
222-23	Lo Exhibit 20 (Locke Depo Transcript)
222-24	Lo Exhibit 21 (APL-ALVCOR_00000179)
222-25	Lo Exhibit 22 (Gundotra Depo Transcript)
222-26	Lo Exhibit 23 (APL-ALVCOR_00078193)
222-27	Lo Exhibit 24 (Caldbeck Depo Transcript)
222-28	Lo Exhibit 25 (User Manual for Kardia by AliveCor and OmronConnect)
222-29	Lo Exhibit 26 (APL-ALVCOR_00436336)
222-30	Lo Exhibit 27 (APL-ALVCOR_00079528)
222-31	Lo Exhibit 28 (AliveNDCal_01511763)
222-32	Lo Exhibit 29 (AliveNDCal_01511764)
222-33	Lo Exhibit 30 (AliveNDCal_04638165)
222-34	Lo Exhibit 31 (AliveNDCal_04638166)
222-35	Lo Exhibit 32 (AliveNDCal_04649133)
222-36	Lo Exhibit 33 (AliveNDCal_04649134)

[redacted]

Previously Filed Document Index	
Dkt. No.	**Document**
222-37	Lo Exhibit 34 (Cragg May 17 Depo Transcript)
222-38	Lo Exhibit 35 (Cragg June 20 Depo Transcript)
222-39	Lo Exhibit 36 (HKWorkout _ Apple Developer Documentation)
222-40	Lo Exhibit 37 (Running workout sessions _ Apple Developer Documentation)
222-41	Lo Exhibit 38 (APL-ALVCOR_00605882)
222-42	Lo Exhibit 39 (Foley Opening Report)
222-43	Lo Exhibit 40 (Cragg Rebuttal Report)
222-44	Lo Exhibit 41 (APL-ALVCOR_00442146)
222-45	Lo Exhibit 42 (AliveNDCal_00011693)
222-46	Lo Exhibit 43 (Tan Depo Transcript)
222-47	Lo Exhibit 44 (Barnett Depo Transcript)
222-48	Lo Exhibit 45 (Valys Depo Transcript)
222-49	Lo Exhibit 46 (Stultz Depo Transcript)
222-50	Lo Exhibit 47 (Cha Depo Transcript)
222-51	Lo Exhibit 48 (APL-ALVCOR_00066223)
222-52	Lo Exhibit 49 (Stultz Depo Transcript)
222-53	Lo Exhibit 50 (Austin Smith Opening Report)
222-54	Lo Exhibit 51 (AliveNDCal_00022918)
222-55	Lo Exhibit 52 (Jafari 5/19 Depo Transcript)
222-56	Lo Exhibit 53 (Jafari 6/19 Depo Transcript)
222-57	Lo Exhibit 54 (APL_ALVCOR_00823192)
222-58	Lo Exhibit 55 (Butler Rebuttal Report)
222-59	Lo Exhibit 56 (Diehl Opening Report)
222-60	Lo Exhibit 57 (Butler Depo Transcript)
222-61	Lo Exhibit 58 (Diehl Depo Transcript)
222-62	Lo Exhibit 59 (Stiroh 5/18 Depo Transcript)
222-63	Lo Exhibit 60 (Stiroh 6/14 Depo Transcript)
222-64	Lo Exhibit 61 (Jafari Rebuttal Report)
222-65	Lo Exhibit 62 (APL_ALVCOR_00078272)
222-66	Lo Exhibit 63 (APL_ALVCOR_00078391)
222-67	Lo Exhibit 64 (Apple Watch User Guide, WatchOS 9.4)

[redacted]

Previously Filed Document Index	
Dkt. No.	**Document**
222-68	Lo Exhibit 65 (View Heart Rate Zones on Apple Watch - Apple Support)

[redacted]

I. PRELIMINARY STATEMENT

As the Ninth Circuit's recent *Epic Games* decision highlights, a party making market definition and procompetitive justification arguments must adhere to a wealth of targeted, nuance-laden law that identifies the very specific legal requirements for those concepts. One cannot simply throw as much as possible against the wall in the hopes that something might stick. Instead, each type of argument requires evidence directed specifically at the relevant market from which the plaintiff was allegedly excluded and justifications for the specific competitive restraint the plaintiff alleges caused it and competition harm.

Apple's defense of the procompetitive justification opinions Dr. Stiroh provided in her opening report, and her two-sided market definition opinions from her rebuttal report, ignores these legal requirements. *See* Stiroh Opp. Instead, Apple cites a wide variety of inapposite law and continues its attempts to rewrite binding precedent. Those arguments fail for several reasons.

First, Apple has not explained how the procompetitive justification opinions Dr. Stiroh offers in her opening report comply with the law or fit the facts of the case. All but one of those justifications have absolutely nothing to do with Workout Mode or any algorithm within Workout Mode, rendering them legally irrelevant under Supreme Court and Ninth Circuit precedent. As for HRNN, Dr. Stiroh tries to justify its inclusion in Workout Mode while never providing a justification for gating off access to HRPO, and without any sort of technical expertise to explain why it was *necessary* to do the latter while introducing the former. In essence, Dr. Stiroh, a non-technical expert, offers a technical product improvement opinion rather than a procompetitive justification opinion, and without justifying the actual competitive restraint AliveCor alleges in this case. That requires exclusion, as Dr. Stiroh implicitly conceded when she finally offered a HRPO-specific opinion in her rebuttal report.[1]

Second, although Apple tries to argue Dr. Stiroh does not offer a two-sided relevant market

[1] That single "rebuttal" opinion arguably came too late because Apple did not disclose it in Dr. Stiroh's opening report, which was for opinions on which Apple bears the burden of proof. However, AliveCor does not move on that single opinion, largely because it is completely unsupported and therefore subject to straightforward cross-examination at trial.

opinion, her report and deposition each show that is exactly what she does. And the problem remains that her two-sided relevant market definition is legally deficient in multiple respects. As an initial matter, Apple cannot contest Dr. Stiroh admitted her definition does not comport with the requirements for a two-sided relevant market, as set forth in *Amex* and reiterated in *Epic Games*. No matter how Apple tries to reframe it, her opinion also clearly violates the Supreme Court's *Kodak* and *Alston* opinions, as well as Ninth Circuit's *Qualcomm* opinion (among many others) by (a) arguing AliveCor needs to prove Apple's monopoly power in anything but the watchOS heart rhythm analysis ("HRA") app aftermarket, and (b) defining the market by conduct rather than the area of effective competition between Apple and AliveCor; *i.e.*, the market where the anticompetitive effects allegedly occurred. This, combined with her complete failure to do any sort of reasonable interchangeability analysis, renders her two-sided relevant market opinion improper hand-waving disguised as "expert" opinion.

For these reasons, Apple has not explained why the Court should permit Dr. Stiroh to offer her unfounded and legally improper opinions. Accordingly, they should be excluded.

II. ARGUMENT

A. The Procompetitive Justifications Dr. Stiroh Set Forth In Her Opening Report Are Legally Impermissible Opinions

Apple insists that Dr. Stiroh offers procompetitive justifications for the "core" anticompetitive conduct at issue—"the replacement of HRPO with HRNN in Workout Mode"—and those justifications thus "fit" this case. Stiroh Opp. at 4-13. But this attorney argument does not resolve the fundamental problems with her opinions. *First*, all but one of Dr. Stiroh's proffered justifications do *not* relate to what Apple now acknowledges is the core conduct. Justifications like these, unmoored from the exclusionary act, fail as a matter of law. *NCAA v. Alston*, 141 S. Ct. 2141, 2160 (2021). Apple's attempt to remedy that problem is to argue the opinions speak to Apple's intent. But, that walks Dr. Stiroh into an entirely different reason for exclusion, because opining about a party's intent is plainly impermissible expert testimony. *Second*, because HRPO remained on the Apple Watch and was used in parallel to HRNN in Workout Mode (as well as separately for Apple's own medical monitoring features), the competitive effects of gating off HRPO can and must

[redacted]

be analyzed separately from Apple's decision to introduce the HRNN. *In re Impax Labs, Inc.*, 2019 WL 1552939, at *31 (F.T.C. 2019). Dr. Stiroh's HRNN-specific opinions do not address this, the only relevant economic question, and are therefore irrelevant as a matter of law. *Third*, Dr. Stiroh's analysis is not tied to a relevant market, and thus violates *United States v. Topco Assocs., Inc.*, 405 U.S. 596, 610 (1972). *Fourth*, Dr. Stiroh conceded by action that her opening justifications do not address the actual conduct at issue, confirming why her other procompetitive justifications must be excluded. Given all these legal infirmities, Dr. Stiroh's procompetitive justification opinions must be excluded. *United Food & Com. Workers Loc. 1776 & Participating Emps. Health & Welfare Fund v. Teikoku Pharma USA*, 296 F. Supp. 3d 1142, 1183 (N.D. Cal. 2017) ("[E]xclusion of opinions that are irrelevant as a matter of law or contrary to the law is appropriate through the Daubert process[.]").

1. Most of Dr. Stiroh's procompetitive justifications have nothing to do with *any* algorithm change, and are offered for improper purpose

Apple concedes that the core anticompetitive conduct at issue in this case is the algorithm change in watchOS 5. Stiroh Opp. at 4. It nonetheless continues to argue that Dr. Stiroh's litany of seemingly-random "justifications"—including the introduction of a Walkie-Talkie App, improvements to Siri, and new watch faces—are relevant as "context." Stiroh Opp. at 8-10; *see also* 191-15 ¶ 13(d)(iii). Dr. Stiroh's strategy of identifying "justifications" completely untethered to the algorithm change, however, is legally and methodologically infirm. *See*, *e.g.*, *O.M. v. Nat'l Women's Soccer League, LLC*, 544 F. Supp. 3d 1063, 1073 (D. Or. 2021) ("Justifications offered under the rule of reason may be considered only to the extent that they tend to show that, on balance, *the challenged restraint* enhances competition.") (internal citation omitted) (emphasis added).

Apple's argument proceeds from the odd premise that it—not AliveCor—is the master of AliveCor's complaint. Stiroh Opp. at 8. According to Apple, Dr. Stiroh can offer procompetitive justifications for acts that AliveCor identified in its complaint as evidence of Apple's market power and anticompetitive intent, rather than as acts AliveCor alleged excluded it from the market.[2] That

[2] *See e.g.*, Dkt. 191-23 at 34:8-35:2 (Apple's App Store review process is relevant to monopoly power, but not the exclusionary conduct at issue); 78:14-83:19 (Apple's introduction of the IRN is relevant to understanding Apple's overall monopolization strategy, but is not the conduct at issue).

premise is false, *cf. Corber v. Xanodyne Pharms., Inc.*, 771 F.3d 1218, 1223 (9th Cir. 2014) (in the CAFA context, "plaintiffs are the masters of their complaint") (internal quotation omitted), and the court in *Epic Games* rejected Apple's identical strategy there. *See Epic Games, Inc. v. Apple Inc.*, 559 F. Supp. 3d 898, 1009-10 (N.D. Cal. 2021) (rejecting Apple's attempt to justify its App Store commission by reference to unrelated hardware intellectual property), *aff'd in relevant part, rev'd in part and remanded*, 67 F.4th 946 (9th Cir. 2023). In order for Dr. Stiroh to offer purported procompetitive justifications to the jury, they must be tied to the conduct at issue, *i.e.* the algorithm change Apple concedes is the "core conduct." *Alston*, 141 S. Ct. at 2160.

Apple's argument that mere mention of these facts in the complaint makes Dr. Stiroh's opinions "fit" the case is likewise incorrect. *See* Stiroh Opp. at 8-9. *Daubert* itself makes clear that "scientific validity for one purpose is not necessarily scientific validity for other, unrelated purposes." *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 591 (1993). Had Dr. Stiroh offered an opinion that Apple's App Store review process was not a source of Apple's monopoly power, for example, *that* might have been a valid reason to provide opinions about the App Store. But that is not what Dr. Stiroh does. Instead, she opines that the App Store review process is procompetitive. Dkt. 191-15 ¶ 102 ("Apple's enforcement of the Review Guidelines on app developers, including AliveCor, is procompetitive[.]"). It is this—the disconnect between competitively justifying these features despite no allegations they are anticompetitive—that underlies AliveCor's "fit" challenge.[3]

Apple now appears to argue that Dr. Stiroh's opinions are "relevant to understanding *why* Apple undertook the conduct AliveCor challenges." Stiroh Opp. at 10 (emphasis in original). In so arguing, Apple unwittingly demonstrates why Dr. Stiroh's justification opinions are inadmissible. First, a hired expert like Dr. Stiroh may not testify as to their client's intent, because that is percipient witness testimony and not the province of expert opinion. *See*, *e.g.*, *Arista Networks, Inc. v. Cisco Sys. Inc.*, 2018 WL 8949299, at *1-*3 (N.D. Cal. June 15, 2018) (excluding experts who opined as

[3] Apple's cite to *Perez v. State Farm Mut. Auto. Ins. Co.*, 2011 WL 8601203 (N.D. Cal. Dec. 7, 2011), is curious. The court admitted a *plaintiff's* expert who opined as to the effects of a specific conspiracy alleged in the complaint. *Id*. at *4. The cite says nothing about a defense expert, like Dr. Stiroh, who opines on the justifications for conduct the plaintiff does *not* allege is exclusionary.

[redacted]

to a party's state of mind or intent); *In re Payment Card Interchange Fee & Merch. Disc. Antitrust Litig.*, 2022 WL 15044626, at *16-*17 (E.D.N.Y. Oct. 26, 2022) (excluding portions of expert opinion relating to the defendants' state of mind and collecting cases); *see also DePaepe v. General Motors Corp.*, 141 F.3d 715, 720 (7th Cir. 1998) (expert "lacked any scientific basis for an opinion about the motives of GM's designers."); *In re Diet Drugs (Phentermine, Fenfluramine, Dexfenfluramine) Prod. Liab. Litig.*, 2000 WL 876900, at *9 (E.D. Pa. June 20, 2000) (excluding expert opinions as to corporate intent because "[t]he question of intent is a classic jury question and not one for experts"). By conceding Dr. Stiroh is offering opinion testimony about *why* Apple took certain actions, Apple has explained to the Court why those opinions must be excluded.

But, even if opining as to a party's intent were not so clearly impermissible, it bears further noting that a monopolist's supposedly benign intent is not a shield to antitrust liability, nor is it a viable procompetitive justification. *United Food* is instructive. There, the defendant offered an expert who opined that it entered into an allegedly anticompetitive agreement based on "good motives." *United Food*, 296 F. Supp. 3d at 1182. The court agreed with plaintiffs that the defendant did "not show how that goal has any pro-competitive impact on consumers or on the industry in general, or on any other consideration relevant to a rule of reason analysis," and therefore excluded that expert. *Id*. at 1184. This case is on all fours. Apple *admits* the only relevance of Dr. Stiroh's "justifications" is understanding *"why"* Apple engaged in the exclusionary conduct. Stiroh Opp. at 10. But, like the testimony in *United Food*, such testimony must be excluded because it bears no relation to the inquiry at hand; *i.e.*, whether there were objectively procompetitive justifications for denying access to HRPO.[4]

Finally, Apple argues that Dr. Stiroh's failure to explain the causal link between her justifications and Apple's anticompetitive conduct is fodder for cross-examination, rather than exclusion. Stiroh Opp. at 10. Not so. An expert's complete failure to explain *any* causal relationship

[4] For similar reasons, Apple's citations to *FTC v. Microsoft Corp.*, 2023 WL 4443412, at *18 (N.D. Cal. July 10, 2023) and *FTC v. Meta Platforms Inc.*, 2023 WL 2346238, at *24 (N.D. Cal. Feb, 3, 2023) have no bearing on this case. Each relates to the hypothetical incentives a merged entity might have, post-merger; not whether an expert can opine on a party's actual intent behind past exclusionary conduct.

between their opinions and the anticompetitive conduct at issue warrants exclusion under *Daubert*. *See*, *e.g.*, *Rearden LLC v. Walt Disney Co.*, 2021 WL 6882227, at *7 (N.D. Cal. July 12, 2021) (excluding expert for confusing correlation for causation); *In re LIBOR-Based Fin. Instruments Antitrust Litig.*, 299 F. Supp. 3d 430, 487 (S.D.N.Y. 2018) (expert found unreliable where he offered no means to distinguish between pro- and anticompetitive factors). Apple admits that Dr. Stiroh offers *no* opinion as to whether Apple's decision to withdraw access to HRPO was necessary for any of her "justifications," Stiroh Opp. at 10, and indeed she cannot offer that opinion because she disclaimed any expertise in the engineering concepts necessary to do so. Dkt. 191-20 at 12:1-13:9 (no expertise in algorithms, source code, or engineering). As a result, AliveCor cannot test the causal link underlying Dr. Stiroh's justifications at trial because *she does not even know if there is one*.[5] Her complete inability to identify any causal link between the conduct at issue and her purported procompetitive justifications requires exclusion. *Alston*, 141 S. Ct. at 2160.

2. Dr. Stiroh's HRNN-specific justifications fail to address the relevant economic question (whether gating off HRPO was procompetitive)

Apple's main argument as to Dr. Stiroh's opinions on HRNN is that she analyzes the correct design change because she focuses on Apple's introduction of that algorithm and assumes the but-for world is one where Apple never introduced it at all. Stiroh Opp. at 4-8. The problem, however, is she tries to justify introducing HRNN without addressing why it was procompetitive to simultaneously gate off HRPO. *Id.* As discussed in AliveCor's Cross-Opposition to Summary Judgment, *that* is the correct legal question. *See* Cross-Opp. § III.A.3. By not addressing it, Dr. Stiroh's opinions about HRNN are both methodologically unsound and legally impermissible.

As an initial matter, AliveCor takes substantial issue with Dr. Stiroh's assertion that HRNN was a "product improvement." Cross-Opp. at 10-11. She has no technical expertise to offer such an opinion. Dkt. 191-20 at 12:1-13:9. However, even if it were proper for a non-technical expert to give a technical opinion, the broader problem is that Apple argues it is proper to explain HRNN's

[5] For this reason, Apple's cited cases are all inapposite. *See In re Juul Labs, Inc. Mktg., Sales Pracs. & Prod. Liab. Litig.*, 2022 WL 1814440, at *5-6 (N.D. Cal. June 2, 2022) (expert offered *some* causation analysis, albeit not empirical); *Burnett v. Nat'l Ass'n of Realtors*, 2022 WL 17730880, at *3 (W.D. Mo. Dec. 16, 2022) (expert offered an empirical causation analysis).

procompetitive justifications because *Allied Orthopedic* supposedly requires this Court to consider the HRPO and HRNN-related design changes together. Stiroh Opp. at 5-6. As discussed more fully in AliveCor's response to Apple's cross-motion, that is incorrect. The question under *Allied Orthopedic* is whether gating off HRPO heart rates from third-party developers was either itself an improvement, or, in the alternative, a "necessary consequence" of the alleged "product improvement in this case," *i.e.*, introducing HRNN. *Allied Orthopedic Appliances Inc. v. Tyco Health Care Grp. LP*, 592 F.3d 991, 1002 (9th Cir 2010); *see also* Cross-Opp § III.A.3.a. Since Apple can prove neither, *see id.*, the economic question for Dr. Stiroh is therefore whether gating off HRPO had procompetitive justifications. *Id.* If she does not (and, as discussed previously and reiterated below, she does not), her HRNN-related justifications should be excluded, because they do not address the core antitrust question in this case. *Alston*, 141 S. Ct. at 2160; *see also C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1379-83 (Fed. Cir. 1998) (noting the jury rejected the defendant's contention its design change was a procompetitive improvement); *Surgical Instrument Serv. Co., Inc. v. Intuitive Surgical, Inc.*, 571 F. Supp. 3d 1133, 1137 (N.D. Cal. 2021) (finding plaintiffs sufficiently pled that defendant's product redesign was exclusionary conduct.").[6]

With this in mind, the undisputed facts bear repeating: HRNN did not "replace" HRPO. *See* Stiroh Opp. at 5. HRPO remained on watchOS 5 and ran in parallel to HRNN for the entire Workout Mode session, even after Apple forced the session to only publish HRNN heart values to third parties. Cross-Opp at 8-9. Apple also continued to use HRPO for its own medical monitoring purposes. *See id.* at 12-15; Dkt. 193-44 § V.C. As Apple itself admits, foreclosing access to HRPO and introducing HRNN were two distinct design changes. Cross-Opp. at 8. Apple has not provided any lay or expert evidence indicating it was necessary to gate off HRPO as a consequence of

[6] Apple's remaining legal support is thin. *Foremost Pro Color, Inc. v. Eastman Kodak Co.*, 703 F.2d 534 (9th Cir. 1983), stands for the uncontroversial opinion that technological tying cases should be analyzed under the Rule of Reason, not as *per se* conduct. *Id.* at 542-43. And, unlike this case, the plaintiff there did not allege that the design change's purpose was to compel purchase of the monopolist's products. *Id.* at 543. AliveCor has made exactly that allegation and shown its truth through discovery. *See* Cross-Opp. § III.A.2. As for *California Computer Prod., Inc. v. Int'l Bus. Machines Corp.*, 613 F.2d 727 (9th Cir. 1979), the issue of whether certain conduct was a product improvement went to the jury. *Id.* at 743-44. At absolute best, *CalComp* supports denying both parties' summary judgment motions and letting the jury decide this question.

introducing HRNN, *see* Cross-Opp. § III.A.3., and Dr. Stiroh cites no such evidence in her report. This is important because the undisputed record shows "Apple would have been free to develop new products independently of its change in access to algorithms[.]" Dkt. 193-42 ¶ 315.

In offering her HRNN-specific procompetitive justification opinions, Apple does not explain how Dr. Stiroh grapples with these issues at all. Despite admitting that antitrust analyses proceed from the counterfactual in which *the challenged conduct* did not occur, *see* Dkt. 191-20 at 67:25-68:7, she instead evaluates a counterfactual in which Apple ceased virtually all innovation entirely, *id.* at 76:24-77:5 ("Q. In the but-for world without the alleged conduct, does Apple introduce the Series 4 watch? A. In my understanding, no.") (objection omitted). But AliveCor is not challenging Apple's overall innovation; it challenges Apple's discrete design change as to HRPO and third-party access. Cross-Opp. at 7-9. Dr. Stiroh's own academic work—not to mention a wealth of legal authority—indicates that her approach is methodologically improper. *See* Stiroh Mot. § IV.A.3. Nothing prevented Dr. Stiroh from engaging in this proper analysis; indeed, she belatedly attempted to do so. *See infra* § II.A.3. Dr. Stiroh's failure to evaluate the appropriate counterfactual is therefore both a fundamental "fit" problem for her HRNN-specific justifications, *see Daubert*, 509 U.S. at 591, and underscores the irremediable unreliability of her testimony, *Bank of Am., N.A. v. Bear Stearns Asset Mgmt.*, 969 F. Supp. 2d 339, 358 (S.D.N.Y. 2013).

Apple attempts to fight this conclusion by faulting AliveCor for the number of times it cites Dr. Stiroh's opening report in its *Daubert* motion—specifically, her contention that introducing HRNN was a "product improvement" to Workout Mode. Stiroh Opp. at 5. However, there is little need to extensively cite discussion on irrelevant topics. *See* Dkt. 191-18 ¶ 29; *see also United Food*, 296 F. Supp. 3d at 1182-84.

3. Dr. Stiroh's procompetitive justifications for HRNN are divorced from the relevant market

Apple also argues that the procompetitive justifications Dr. Stiroh offers in her opening report are tied to the relevant market—more specifically, Dr. Stiroh's ill-defined "upstream" market. Stiroh Opp. at 10-13. AliveCor predicted Apple would make this argument, noting that "***[a]t best***, Dr. Stiroh's procompetitive justifications relate to her flawed two-sided market," and noted it does

not save Dr. Stiroh's justification opinions from exclusion. Stiroh Mot. at 10 (emphasis added). However, there are three notable aspects of Apple's position that lay bare why its argument is incorrect.

First, when it tries to defend Dr. Stiroh's market definition opinions, Apple claims she did *not* identify an upstream two-sided relevant market. *See* Stiroh Opp. at 14. However, when its tries to defend her *justification* opinions, Apple claims introducing HRNN provided procompetitive benefits in her supposedly-undefined market. Stiroh Opp. at 10-13. This is blatantly contradictory and, as discussed in Section II.B, belies Apple's claim that Dr. Stiroh does not affirmatively offer an unsupported relevant market definition in this case.

Second, Apple fails to respond to the point that the Supreme Court has held that procompetitive benefits must be felt in a *relevant* market. *Topco*, 405 U.S. at 610; *see also* Stiroh Mot. at 9. If Apple is correct that Dr. Stiroh has not identified a relevant market, then justifying HRNN on the basis of benefits to an undefined relevant market violates these precepts and requires exclusion. If, on the other hand, Dr. Stiroh *did* define a relevant market—which she did, *see* Section II.B, *infra*—that market definition violates all law and economic theory, so justifications that provide benefits in that impermissibly-defined market must be excluded. *In re NCAA Athletic Grant-in-Aid Cap Antitrust Litig.*, 2018 WL 1948593, at *3 (N.D. Cal. Apr. 25, 2018). Either way, it is no defense to vaguely imply that her justifications have to do with some other market besides watchOS HRA apps, yet fail to explain why it is relevant here.

Third, in the portion of its brief on this topic, Apple cites *Epic Games, Inc. v. Apple, Inc.*, 67 F.4th 946, 990 (9th Cir. 2023), for the proposition that the Ninth Circuit found Apple offered procompetitive justifications for App Store-related restraints in a case about *the relevant market in which the App Store competes*. Stiroh Opp. at 12. That is exactly the point. In *Epic Games*, procompetitive justifications for App Store-related restraints made sense because the case was about competition with the App Store. But Dr. Stiroh admitted the App Store is *not* related to any exclusionary conduct in this case. Dkt. 191-21 at 177:9-15 ("Does AliveCor allege that there's some kind of anticompetitive activity going on with respect to the App Store? A. My understanding is that it does not.") (objection omitted). This internal inconsistency is an additional basis warranting

exclusion.[7]

4. Dr. Stiroh implicitly admitted the justifications she offers in her opening report should be excluded

In addition to the above observations, it also bears noting that actions often speak louder than words. It is thus ironic that Apple attempts to suggest that Dr. Stiroh did offer an HRPO-specific procompetitive justification in this case, *see* Stiroh Opp. at 4, because that single justification only came in Dr. Stiroh's *rebuttal* report. *See* Dkt. 191-16 at ¶¶ 24-29. Notably, Apple bears the burden of proof on procompetitive justifications, *see Alston*, 141 S. Ct. at 2160 (Defendant bears the burden "to show a procompetitive rationale for the restraint."), and was accordingly required to disclose expert opinion on the issue in Dr. Stiroh's opening report. Having failed to limit her rebuttal report to actual rebuttal, *Vu v. McNeil–PPC, Inc.*, 2010 WL 2179882, at *3 (C.D. Cal. May 7, 2010), and instead using that report to shoehorn in additional testimony relating to Apple's affirmative burden, her single HRPO-related opinions technically should be stricken as untimely. *Fed. Trade Comm'n v. Qualcomm Inc.*, 2018 WL 6522134, at *4-5 (N.D. Cal. Dec. 11, 2018).

Nevertheless, AliveCor does not move to strike that untimely opinion—*i.e.*, that removing third party access to HRPO had some unspecified, unsupported cost savings—and will be prepared to cross-examine Dr. Stiroh on it at trial. What is most relevant for present purposes is that Dr. Stiroh and Apple demonstrated through conduct that they knew the procompetitive justifications she offered in her opening report did *not* address the core conduct at issue in this case. This makes AliveCor's point and underscores through action what Apple's words try to obscure.

B. Dr. Stiroh Offers A Legally Infirm Market Definition That Must Be Excluded

Apple defends Dr. Stiroh's two-sided relevant market definition analysis by claiming she did not offer an affirmative market definition. Stiroh Opp. at 13-15. This is profoundly disingenuous.

[7] Apple's passing reference to refusal to deal law is irrelevant. *See* Stiroh Opp. at 11 (citing *Alaska Airlines, Inc. v. United Airlines, Inc.*, 948 F.2d 536, 545 n.12 (9th Cir. 1991)). This case is not a refusal to deal. Cross-Opp. § III.A.4. Apple's tireless attempts to nevertheless frame this case as a refusal to deal are legally improper, *see Intuitive Surgical*, 571 F. Supp. 3d at 1337 (declining to analyze a product design case as a refusal to deal), as well as misleading. In any event, Apple does not explain how any refusal would be anything but a refusal at the Apple Watch level; *i.e.*, in the foremarket AliveCor identified.

[redacted]

The following are unedited quotations from Dr. Stiroh's rebuttal report: "Dr. Cragg ignores the appropriate relevant market in which to evaluate the conduct at issue[,]" Dkt. 191-16 ¶ 8; "Dr. Cragg has failed to consider the *relevant* market in this case—the key market in which the alleged conduct occurred[,]" *id*. ¶ 19 (emphasis in original); "The market in which that alleged conduct occurred is the two-sided app transaction market in which Apple provides services as a platform operator to AliveCor and other app developers[,]" *id*.; "Dr. Cragg Fails to Analyze the Relevant Market in Which the Conduct Took Place: a Market in which AliveCor and Apple Are Not Competitors[,]" *id*. § III.A; "The Apple App Store is a two-sided transaction platform that offers services to two different groups of consumers—(1) app developers and (2) app users—by facilitating interactions between them[,]" *id*. ¶ 22; "Thus, the alleged conduct centers on Apple's role as a platform operator in the two-sided market for app transactions[,] *id*. ¶ 25. There is more.

Apple cites to Dr. Stiroh's *first* deposition to suggest that she is not affirmatively offering a market definition opinion. Stiroh Opp. at 13. That, however, is incredibly misleading. At that time—May 18, 2023, four days before the rebuttal report deadline—she had only provided her *opening* report, which was limited to procompetitive justifications. Thus, she testified very specifically, "***For purposes of this [opening] report***, I have not offered opinions on what the relevant market or markets are." Dkt. 191-20 at 139:14-17 (emphasis added). Notably, when Apple cites Dr. Stiroh's report for this argument, it likewise cites her opening report. *See* Stiroh Opp. at 13. Dr. Stiroh herself confirmed that she offers a two-sided market definition in her *second* deposition, which was about her rebuttals to Dr. Cragg's opening opinions. Dkt. 191-21 at 172:13-21 ("Q. What do you think is the relevant market in this case? A. I think that the relevant market needs to include the transaction between Apple and AliveCor, where the conduct at issue, as Dr. Cragg has defined it, occurred. And that relevant market would be a market where Apple operates in a two-sided platform.").

Apple's misleading statements are highly relevant to the disposition of this motion for two separate reasons. First, they reflect precisely the "lack of candor" that has troubled this Court previously. Dkt. 182 at 9. Second, this type of deeply misleading tactic is precisely what Apple intends to deploy at trial via Dr. Stiroh. Neither she nor Apple should be allowed mislead the jury by presenting legally infirm evidence. Indeed, it is precisely this risk that the *Daubert* standard seeks

[redacted]

to prevent. *Daubert*, 509 U.S. at 595 ("Expert evidence can be both powerful and quite misleading because of the difficulty in evaluating it."); *United Food*, 296 F. Supp. 3d at 1183.

On the substance, Apple offers no serious response to AliveCor's opening motion. There is no real question that Dr. Stiroh's two-sided relevant market definition violates *Amex*'s core holdings. *Infra* § II.B.1. Nor is there any real doubt that Dr. Stiroh's market definition methodology dramatically departs from all established precedent. *Infra* § II.B.1. Accordingly, her two-sided relevant market opinions must be excluded. *In re Live Concert Antitrust Litig.*, 863 F. Supp. 2d 966, 983 (C.D. Cal. 2012) (excluding expert for faulty market definition methodology).

1. Dr. Stiroh's two-sided relevant market definition contravenes *Amex*

Apple barely addresses the point that Dr. Stiroh's two-sided relevant market opinions directly contradict *Amex*. *See* Stiroh Opp. at 14-15. Instead, Apple merely repeats its argument that Dr. Stiroh analyzes why Apple made changes to its hardware and software offerings. *Id*. Those opinions are legally impermissible expert testimony regarding state of mind and intent. *Arista Networks*, 2018 WL 8949299, at *1-3. Even if they were not, they offer a market definition at odds with Supreme Court law.

A two-sided relevant market is one where the product is a simultaneous transaction between two different sets of consumers. *Ohio v. Am. Express Co.*, 138 S. Ct. 2274, 2286 (2018); *see also US Airways, Inc. v. Sabre Holdings Corp.*, 938 F.3d 43, 57 (2d Cir. 2019) ("A transaction platform is a two-sided platform where the business 'cannot make a sale to one side of the platform without simultaneously making a sale to the other.'") (quoting *Amex*, 138 S. Ct. at 2280). The mere fact that a market includes a "two-sided platform" does not make it a two-sided relevant market. *Amex*, 138 S. Ct. at 2286 ("To be sure, it is not always necessary to consider both sides of a two-sided platform."). Experts have been, and should be, excluded for offering two-sided relevant market definitions where they do not provide any explanation of how the factors at issue in *Amex* are present. *See In re NCAA Athletic Grant-In-Aid Cap Antitrust Litig.*, 2018 WL 4241981, at *4 (N.D. Cal. Sept. 3, 2018). Accordingly. Dr. Stiroh's two-sided relevant market definition opinions must be excluded on these grounds alone. *United Food*, 296 F. Supp. 3d at 1183. Indeed, she does not even know what are the criteria of such a market. *See* Dkt. 191-21 at 188:13-20.

[redacted]

2. Dr. Stiroh did not apply any accepted methods in defining her two-sided relevant market

Apple suggests that Dr. Stiroh's two-sided market definition is appropriate because she focuses on the alleged conduct at issue. Stiroh Opp. at 14-15. The irony here is palpable. Despite studiously ignoring Apple's foreclosure of HRPO to third parties in her procompetitive justifications analysis, *supra* § II.A., Apple claims Dr. Stiroh's market definition is admissible because it supposedly identifies the "correct" market *where Apple gated off HRPO from third parties*. In any event, Ninth Circuit precedent squarely forecloses Apple's argument.

Market definition analyses begin by defining "the area of effective competition" between the parties. *Fed. Trade Comm'n v. Qualcomm Inc.*, 969 F.3d 974 (9th Cir. 2020); *see also Am. Ad Mgmt., Inc. v. Gen. Tel. Co. of Cal.*, 190 F.3d 1051, 1057 (9th Cir. 1999). Practically, this means identifying the relevant products at issue, applying the smallest-market principle, and then applying a Hypothetical Monopolist Test (or similar), methods that Dr. Cragg followed and Dr. Stiroh did not. *See* Dkt. 193-42 § IV.A. Fundamentally, these analyses boil down to "what products are economic substitutes." *In re HIV Antitrust Litig.*, 2023 WL 3088218, at *13 (N.D. Cal. Feb. 17, 2023). Indeed, Dr. Stiroh herself acknowledges this fact *in her own report*. Dkt. 191-16 ¶ 58 ("The market definition exercise ultimately focuses on identifying products that are 'reasonably interchangeable' with the products that are central to the antitrust claims in a case."). Dr. Stiroh's failure to follow her own statement of the appropriate methodology—and Apple's inability to explain how she followed any such methodology—warrants exclusion.

Apple's ploy in the face of this law is to suggest that Dr. Stiroh's opinion is relevant because it grapples with a licensing market. *See e.g.* Stiroh Opp. at 14 ("Apple 'as a platform operator' provides the Workout Mode API and other tools and services to AliveCor and other developers[.]"). The Ninth Circuit, however, rejected this precise argument in *Qualcomm*. In that case, the district court "correctly defined the relevant markets as 'the market for CDMA modem chips and the market for premium LTE modem chips,'" which were correct because those were the markets where (a) Qualcomm and other chip manufacturers competed, and (b) its licensing practices supposedly *affected* competition. *Qualcomm*, 969 F.3d at 992-993. The district court's legal error, therefore,

[redacted]

was analyzing the effects of Qualcomm's licensing practices in a market between Qualcomm as licensor and certain OEM customers as licensees, rather than those practices' effects in the "area of effective competition" supposedly *affected* by those practices: the market where Qualcomm's practices supposedly foreclosed other chip manufacturers from effectively competing. *Id*. at 992. Apple asks this Court to allow Dr. Stiroh to try to convince the jury to make the same reversible error. Her analysis relates to a supposed market in which AliveCor and Apple are in the supposed position of seller and purchaser—rather than the market in which they compete (watchOS HRA apps). 191-16 § III.A. Were the Court to allow her to testify to either her market definition or her procompetitive justifications in the nebulous licensing market, it would invite analysis of "actual or alleged harms to customers and consumers outside the relevant markets [which is] beyond the scope of antitrust law." *Qualcomm*, 969 F.3d at 993.

Apple cites no other authority contrary to these basic market definition principles. *See* Stiroh Opp. at 15. Instead, the first sentence in Apple's final paragraph concedes that Dr. Stiroh's market analysis proceeds from the relevant *conduct*. *Id.* Apple tries to gloss over this admission by arguing that markets do not exist independent of the relevant antitrust *injury*, *id.*, but that is a complete *non sequitur*. As the Glasner and Sullivan article that Apple cites makes clear, focusing on the relevant antitrust *injury* involves looking at the market where the alleged harm to competition occurred. David Glasner & Sean Sullivan, *The Logic of Market Definition*, 83 Antitrust L. J. 293, 325 (2020) ("[A] relevant antitrust market must always be conditioned on a specific theory of competitive injury."). Likewise, the article Apple cites from Dr. Salop focuses not on *conduct*, but on *effects*. *See* Steven C. Salop, *The First Principles Approach to Antitrust, Kodak, and Antitrust at the Millennium*, 68 Antitrust L. J. 187, 188 (2000) ("The first principles approach centers on an examination of the competitive effects of the conduct at issue.").

Adding to the irony of Apple's market definition arguments, the Salop article was prompted by, and extensively discusses, the Supreme Court's decision in *Eastman Kodak Co. v. Image Tech. Servs., Inc.*, 504 U.S. 451 (1992). The gist of Dr. Salop's analysis *in that article* is that the real focus in aftermarket cases like this one is on lock-in, an issue that Apple does not contest in its papers. *See* Salop, *supra*, at 195; *see also* Cross-Mot. at 37 n.11; *see generally* Cross-Mot § IV.A.2. (not

discussing lock-in). That strongly supports AliveCor's case and lays bare the infirmities in Dr. Stiroh's two-sided relevant market definition approach, especially because *Kodak* holds that, if a plaintiff proves lock-in power in an aftermarket, they need not prove the defendant's power in any other market. 504 U.S. at 467-71. Furthermore, Apple's final authority—a 1986 dissenting opinion from Judge Easterbrook, in the Seventh Circuit—suggests that the approach to market definition changes based on the theory of competition. *See Fishman v. Estate of Wirtz*, 807 F.2d 520, 569 (7th Cir. 1986) (Easterbrook, J., dissenting). In the very article Apple cites, Dr. Salop himself notes that this approach "is fraught with potential for error." Salop, *supra*, at 189. Furthermore, in the decades since, court after court has reiterated that market definition does *not* change based on the theory of competition, but rather looks at where the parties compete, so the fact finder can determine whether the defendant's conduct harmed competition in that market. *See*, *e.g.*, *Phonetele, Inc. v. Am. Tel. & Tel. Co.*, 889 F.2d 224, 232 (9th Cir. 1989) ("[T]he correct legal standard in defining the market, limit[s] the market to include only products which could compete with the [product], as opposed to including all ancillary equipment whatever its function.").

There is no serious contention in this case that such competitive harm occurred anywhere but the market where Apple and AliveCor respectively offered the IRN and SmartRhythm. Nevertheless, that is not how Dr. Stiroh proceeded. She focused on Apple's conduct; *not* the alleged injury. This is clearly improper, even under Apple's own authority. Dr. Stiroh's market definition approach is thus economically unsound, and her two-sided market opinion should be excluded. *In re Live Concert Antitrust Litig.*, 863 F. Supp. 2d at 983; *see also Kentucky Speedway, LLC v. Nat'l Ass'n of Stock Car Auto Racing, Inc.*, 588 F.3d 908, 916-19 (6th Cir. 2009).[8]

III. CONCLUSION

For the foregoing reasons, the opinions on procompetitive justifications that Dr. Stiroh offers in her opening report, as well as her two-sided relevant market definition should be excluded.

[8] Apple's passing citations to *FTC v. Indiana Fed'n of Dentists*, 476 U.S. 447 (1986) and *Amex*, *see* Opp. at 15, have no relevance to the case at hand. *Indiana Fed'n of Dentists* holds, among other things, that litigants do not need to define markets *at all* in *per se* Section 1 cases. 476 U.S. at 460. The cited footnote in *Amex* observes the inverse—market definition is necessary in Rule of Reason cases. *Amex*, 138 S. Ct. at 2285 n.7.

[redacted]

DATED: August 24, 2023

QUINN EMANUEL URQUHART & SULLIVAN, LLP

By */s/ Adam B. Wolfson*
Sean Pak
Adam B. Wolfson
Andrew M. Holmes

Attorneys for Plaintiff AliveCor, Inc.

[redacted]

CERTIFICATE OF SERVICE

I, Adam Wolfson, hereby certify that on August 24, 2023, the foregoing **PLAINTIFF ALIVECOR INC.'S REPLY IN SUPPORT OF ITS MOTION TO EXCLUDE CERTAIN OPINIONS AND TESTIMONY OF LAUREN J. STIROH, Ph.D.** was filed with the Clerk of the Court via CM/ECF. Notice of this filing will be sent electronically to all registered parties by operation of the Court's electronic filing systems.

DATED: August 24, 2023

By */s/ Adam B. Wolfson*
Adam B. Wolfson